

Column Standard Laboratory Module (SLM™)

General Overview of the Column SLM

The CAA Column SLM automates three distinct but similar column-type separation processes:

- 1) ion exchange of metallic radionuclides
- 2) absorption of organic compounds
- 3) drying of organic compounds
- 4) solid-phase extraction

Environmental Protection Agency (EPA) Method

- 1) Ion exchange of metallic radionuclides according to Department of Energy laboratory methods.
- 2) Absorption of organic compounds according to USEPA Methods: 3610, 3611, 3620, and 3630.
- 3) Drying of organic compounds according to USEPA Methods 3540 and 3550.

Standard Analysis Method (SAM)

This SLM will be used in both organic and inorganic SAMs.

Advantages

This SLM offers the advantage of automating a tedious manual process thus reducing labor requirements. It complies with Contaminant Analysis Automation (CAA) Program protocols.

General Description of the Column SLM

The Column SLM implements methods in which a sample solution is passed through a column to capture or remove desired constituents. Sample solution comes to the SLM in a beaker, and resultant liquids are deposited into other beakers. A fresh column containing a separation matrix is installed for each new sample run. After loading beakers and the column, the SLM carries out the separation process automatically. The SLM must maintain rigid level- and flow-control standards to assure good separations.

Status

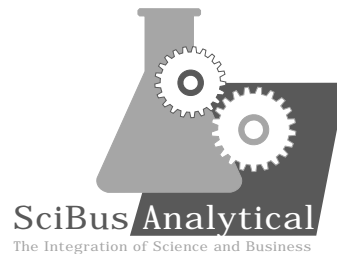
A vendor of chemical analysis automation systems is being contracted to develop this SLM to CAA standards and specifications.

Industrial Partner

A procurement contract is under negotiation.

Developers

The Column SLM is being developed jointly by a private vendor and Oak Ridge National Laboratory, Pacific Northwest Laboratories and Idaho National Engineering Laboratory.



University of Florida
University of Tennessee
University of Texas

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